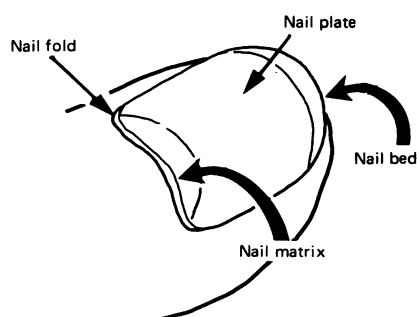


ABC of Dermatology

A L WRIGHT

NAILS

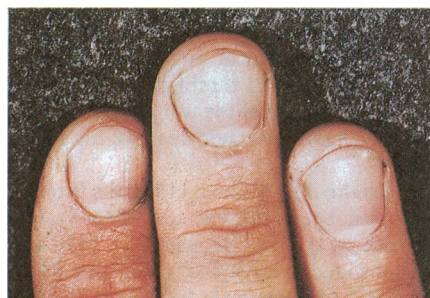


Nails are a protective cover for the ends of the fingers and toes which also help to increase tactile sensitivity by exerting counterpressure over the distal pulp.

The nail consists of a nail plate resting on the nail bed, which grows out from a nail matrix.

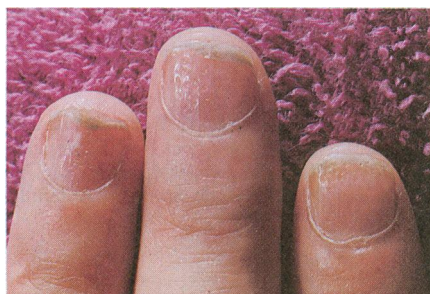
Fingernails grow about 1 cm in three months and toenails at about a third of this rate. Growth is slower in the non-dominant hand and in old age.

Examination and surface changes

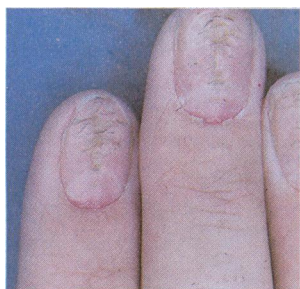


Pits

Psoriasis
Alopecia
Hand dermatitis



Horizontal ridging



Beau's lines
Previous systemic illness
Hand dermatitis

Longitudinal ridges

Single
Pressure effect
Multiple
Lichen planus
Alopecia areata
Psoriasis
Darier's disease

A thorough relevant history is essential. Particular attention should be paid to past skin conditions because a previous episode of hand dermatitis may have settled leaving perplexing nail changes. A family history of psoriasis may explain nail changes in the absence of any other such signs. Occupation may also be relevant.

The nails should always be examined in adequate light, and all the fingernails and toenails should be inspected. Particular attention should be paid to the symmetry of the changes. For example, onychomycosis and psoriasis may cause similar changes, but psoriasis is commonly symmetrical while onychomycosis is often not.

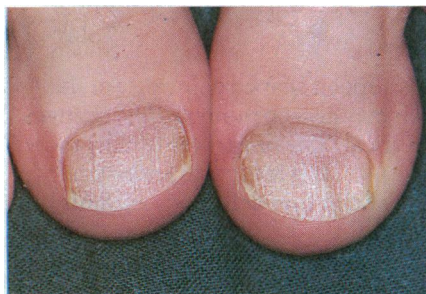
Other signs of skin disease should be carefully looked for. Psoriasis can cause severe nail changes with no other skin lesions, but a thorough examination may show a small patch of psoriasis periumbilically or perianally.

An assessment should then be made of which parts of the nail are affected. Are the changes in the surface texture of the nail, the nail plate itself, the nail bed, or the surrounding soft tissues?

Pits are small punctate depressions in the nail plate. They vary considerably in size and may be regular or irregular. They occur commonly in psoriasis, usually irregularly distributed, and in alopecia areata, when they may be very regular. They are less commonly associated with hand dermatitis.

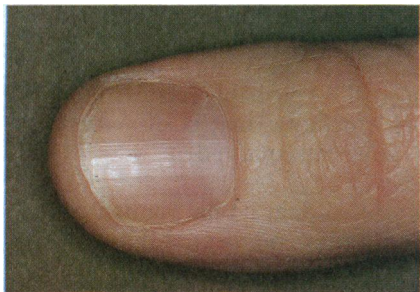
Horizontal ridging is usually seen in the form of Beau's line. This is usually a single horizontal depression that progresses distally with nail growth and indicates a previous episode of illness. Multiple small horizontal ridges may occur with hand dermatitis or any inflammatory condition affecting the soft tissues around the nail.

Longitudinal ridges—Single longitudinal ridges may be caused by pressure from tumours, either benign or malignant, in the proximal nail fold. These may progress to a true split in the nail.

**Trachyonychia**

Lichen planus
Psoriasis
Alopecia areata

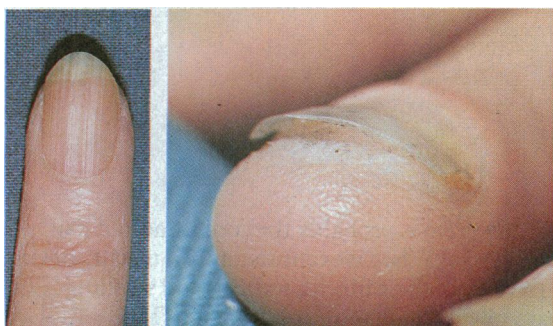
Changes in the nail plate

**Thinning**

Psoriasis
Onychomycosis
Pachyonychia congenita

**Lamellar splitting**

Trauma

**Detachment—
onycholysis**

Psoriasis
Onychomycosis
Trauma
Thyrotoxicosis

**Thickening—
onychogryphosis**

Trauma

**Subungual
hyperkeratosis**

Psoriasis
Hand dermatitis

Multiple longitudinal ridges of varying size are a feature of lichen planus, psoriasis, alopecia areata, and Darier's disease. When lichen planus is suspected the buccal mucosal membrane should always be examined for lesions.

Trachyonychia is roughness of the nails, so that they feel like fine sandpaper. This change is usually symmetrical and can occur in lichen planus, psoriasis, and alopecia areata.

Thinning or hypertrophy of the nail plate is most commonly seen with psoriasis and onychomycosis. The changes are often asymmetrical. The presence of other nail changes due to psoriasis (such as pitting and onycholysis) should be sought if there are no other skin signs of psoriasis. Nail clippings may need to be taken for microscopy and culture to exclude fungal infection. More rarely the changes may affect all the nails as in pachyonychia congenita.

Lamellar splitting of the nail plate occurs distally and horizontally and is caused by exogenous factors, particularly repeated immersion in water.

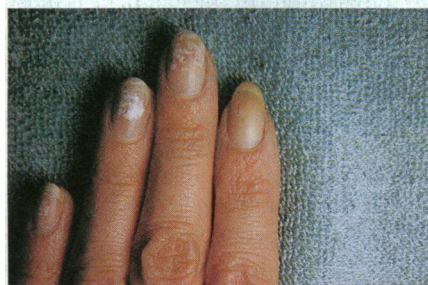
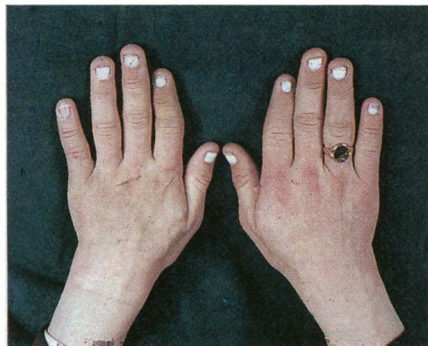
Onychomadesis is complete shedding of the nail and can occur in any severe illness which results in sudden stopping of nail growth. The nail plate continues to move distally and is shed when it loses its adhesion to underlying tissues. This change may rarely occur with lichen planus. Shedding may be seen with any condition which can cause severe onycholysis.

Onycholysis is detachment of the nail from its bed. The main difference from onychomadesis is that it usually, but not always, begins distally or laterally, causing a subungual space which fills with air, giving that area of the nail a whitish grey discoloration. It is most commonly seen in psoriasis but can occur in onychomycosis, thyrotoxicosis, and trauma. It may become extensive, enough to cause nail loss, through loosening of the nail plate.

Onychogryphosis is thickening of the nail, probably due to repeated trauma. It commonly affects the nails of both great toes but may affect other toes as well.

Subungual hyperkeratosis is due to hyperplasia of the epidermis underlying the nail plate and occurs either distally or throughout the nail. It is usually seen in psoriasis and hand dermatitis.

Colour changes in the nail plate—Apparent changes in colour may be caused by changes in the nail bed. Cyanosis may make the nails look blue. Actual discoloration of the nail plate can be due to endogenous or exogenous factors. *Exogenous* factors include occupational exposure to dyes or other materials. Infection with pseudomonas may colour the nail green and topical treatment may stain the nail plate—for example, potassium permanganate soaks stain it brown. Prolonged application of nail varnish may also make nails brown. *Endogenous* causes of discoloration include a wide variety of drugs and systemic illnesses.

**Leukonychia**

True
Onychomycosis
Trauma

Apparent
Anaemia
Hypoproteinaemia

Colour changes

Exogenous
Occupational
Pseudomonas infection
Topical treatment

Endogenous
Drugs, eg
Tetracyclines—yellow
Antimalarials—blue
Chlorpromazine—brown
Systemic illness, eg
Jaundice—yellow
Cirrhosis—white
Adrenal insufficiency—brown

Koilonychia

Iron deficiency

Pigmented streaks

Malignant melanoma

Normal in pigmented skin
Melanocytic naevi
Lentigo
Addison's disease

Koilonychia is a spoon shaped deformity of the nail plate, which may also be thinned. The changes may be asymmetrical. The fingers are usually more affected than the toes. It is most characteristically seen in association with iron deficiency anaemia but may be idiopathic.

Leukonychia or whiteness of the nails is said to be true when it affects the nail plate and apparent when it affects the subungual tissues. Complete whiteness of the nail is rare, but isolated total leukonychia is seen with fungal infections. The only common form of true leukonychia is the punctate form, which occurs as small white spots 1-3 mm in diameter, singly or in groups. This probably relates to episodes of trauma to the nail matrix. Apparent leukonychia is seen in anaemia and hypoproteinaemia.

Pigmented streaks—Longitudinal pigmented streaks may be multiple in pigmented skin and are a normal finding. Their presence in white people, particularly if of recent onset, raises the possibility of a malignant melanoma of the nail. These may or may not produce dystrophic changes in the nail plate. Twenty five per cent of subungual melanomas are amelanotic. Other causes of pigmented streaks include conditions such as a lentigo, as well as benign melanocytic naevi. Similar changes may be seen in Addison's disease.

Around the nail: soft tissue changes**Paronychia**

Acute
Trauma

Chronic
Trauma
Water

**Pterygium formation**

Circulatory disorders
Lichen planus

Paronychia is probably the commonest of nail complaints. When it occurs acutely it usually begins at the side of the nail with redness and swelling. Pus may collect which requires drainage. The commonest infecting organisms are staphylococci and less commonly β haemolytic streptococci. Correct antibiotic therapy is essential.

The condition may present as a more chronic problem characterised by loss of the cuticle over all or part of the nail with thickening of the nailfold and variable inflammation.

Acute paronychia usually affects only one nail, whereas chronic paronychia may affect several. The cause may also be different. Acute paronychia is often related to minor trauma whereas the chronic state usually results from repeated immersion in water, and *Candida albicans* can be isolated in many cases.

Pterygium formation—The cuticle appears to grow out over the nail with loss of the proximal nailfold. Initially this may appear to split the nail but can progress to complete nail loss. It is due to a scarring loss of the nail matrix and is seen in conditions characterised by impairment of the circulation and occasionally in lichen planus.

Treatment of nail disorders

Treatment of chronic paronychia

Keep hands as dry as possible
Treat episodes of inflammation with oral antibiotics
Long term application of ointment containing nystatin or antiseptic paint, eg gentian violet

Few specific treatments are successful for nail disorders, except for fungal infections, which are usually treated with oral griseofulvin. Griseofulvin may need to be given for more than a year and even then may not produce complete clearance, particularly of the toenails. Tablets should be taken with food. Like many treatments, griseofulvin should not be given in pregnancy. Side effects commonly consist of gastrointestinal disturbances and less commonly headaches, photosensitivity, and allergic reactions. Ketoconazole is an alternative and it needs to be given for the same length of time. Liver toxicity has been reported and regular monitoring is necessary.

Other nail dystrophies

Psoriatic nail changes may improve if the general state of the skin improves. Potent topical steroids applied locally can produce some improvement but relapse is frequent.

Local eczematous disease—Changes related to a local eczematous process will gradually improve if the local skin remains clear.

Non-scarring lichen planus improves spontaneously. Progressive scarring may be helped by oral steroids. The nail change of alopecia areata may persist after the hair loss has recovered. Treatment is unhelpful.

Local trauma—Problems related to local trauma, particularly chronic paronychia, lamellar splitting, and onycholysis, will improve if the underlying factors can be removed.

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Further reading

Samman PD. *The nails in disease*. 3rd ed. London: Heinemann, 1978.
Baran R, Dawber RPR. *Diseases of the nail and their management*. Oxford: Blackwell Scientific, 1984.

Medicolegal

Settlement of the benoxaprofen case

CLARE DYER

On 9 December Mr Justice Hirst, the judge in the benoxaprofen case, announced the terms of an offer of settlement by Eli Lilly, the drug's manufacturer—or, rather, he announced the terms that Lilly was willing to make public. The most important term, the size of the settlement—£2 275 000 to be divided among some 1200 plaintiffs—was shrouded in secrecy, although it was described as "despicable and insulting, yet totally legal" by Miss Kathleen Grasham, chairman of the Opren Action Committee, whose elderly mother died from Stevens-Johnson syndrome and renal failure after taking the drug. The offer has been made without any admission that the drug caused the injuries or that Lilly is liable.

Benoxaprofen, marketed in the United Kingdom as Opren, was withdrawn from sale in the United Kingdom in 1982 after a report in the *BMJ* of the deaths of five elderly patients who had taken the drug.¹ Trials of the drug, which has been implicated in more than 60 deaths, took place largely in the United Kingdom, where it

was on the market for two years. In America, where the drug was known as Oraflex, it was withdrawn after only three months.

The case is the biggest personal injury claim ever to reach the English courts not only in terms of the number of plaintiffs but also in terms of the numbers of documents disclosed (1.2 million), the number of medical experts consulted (between 20 and 30 doctors for the plaintiffs alone), and the costs (nearly £4 million to date, which Lilly has agreed to pay). The defendants are not only the American parent company, Eli Lilly and Co, but also three subsidiaries in the United Kingdom and two governmental bodies, the Committee on Safety of Medicines and the Licensing Authority under the Medicines Act 1968 (the Department of Health and Social Security). The government defendants, who also deny liability, will not be contributing to the offer of compensation.

Complications of legal aid

The tragedy of the case, said Miss Grasham, is that the defendants "have been able to use the system to their advantage." The litigation has had a chequered history. The plaintiffs' lawyers originally hoped for an American trial, but a judge in Indianapolis, where

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